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ABSTRACT

Statistics from research studies indicate that boys have more difficulty than girls in learning to read. As a result, changes being made in the educational system are aimed at adapting early instruction to the individual needs and capacities of boys as well as girls. This booklet focuses on past research on sex differences in reading achievement, a "right-to-read" program for boys, current programs accommodating to sex differences, the author's research in reading instruction, and sex differences in learning and teaching methods (personality style, activity levels, subject matter interests, listening skills, verbal facility, auditory discrimination, attention span, and goals and motivations). A bibliography is included. (JM)

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SEX DIFFERENCES IN LEARNING TO READ

Fastbacks 19

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Reading is the key that enables us to see with the keenest eyes, hear with the finest ears, and listen to the sweetest voices of the ages.

—*James Russell Lowell*

Reading is a golden key because it opens the door to endless opportunities in education. Ralph Waldo Emerson, a contemporary of Lowell, said that the secret of education lies in respecting the pupil. In teaching boys to read, "respecting the pupil" must include respect for the individuality of boys and recognition of basic differences in learning that affect their achievement.

Fewer boys than girls in our society learn to use reading as a "golden key" to education. Large school systems report that at the upper elementary level, boys make up 75% to 80% of all reading disability. Enrollment figures from reading clinics show that boys compose over 85% of the students in classes for reading improvement. Statistics from many research studies indicate that boys have more difficulty than girls in learning to read.

The growing recognition that boys have more difficulty than girls with symbol learning is slowly but surely evolving changes in the educational system. These changes are aimed at adapting early instruction to the individual needs and capacities of boys as well as girls.

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PAST RESEARCH ON SEX DIFFERENCES IN READING ACHIEVEMENT

Because the poor reading achievement of many elementary school boys has been of growing concern to educators, there have been many studies designed to investigate this disparity in the reading ability of boys and girls. As early as the 1930s, St. John tested approximately 1000 pupils in grades one through four and found no significant differences in measured intelligence. Nevertheless, he reported that girls markedly excelled boys in reading in the first four grades, and that boys showed 75% more non-promotions than girls.

In 1939, Wilson, Burke, and Fleming reported on a three-year study of sex differences in reading among students in a progressive school in New York City. They found no differences in mental tests among boys and girls in the first grade; yet in reading at the second-grade level, they discovered an average chance of eighty-eight in 100 that the girls would be superior.

During the 1940s, one of the largest research projects on sex differences in school achievement was conducted by Stroud and Lindquist with 50,000 pupils in more than 300 schools in Iowa. Students in grades three through eight were tested on reading comprehension, vocabulary, word-study skills, basic language skills, and arithmetic skills. The researchers found that the girls maintained a consistent and generally significant superiority over boys in all subjects except arithmetic.

Gates was one of the first to question whether or not there might be something in the school situation or social setting which militated against the reading success of boys. In 1961, he analyzed the reading test scores of 6,646 boys and 6,468 girls in

grades two through eight in the New York city schools. The boys and girls were approximately typical in intelligence, scholastic aptitude, and other pertinent characteristics. Results of the study showed that the scores of the girls were significantly higher than those of the boys at all grade levels. Gates felt that the poorer showing by the boys on the tests indicated an environmental rather than a hereditary explanation. Perhaps more girls than boys experienced life situations in which there were greater opportunities, incentives, and respect for reading. Because of different role conceptions in our culture, the boys might have failed to be motivated by a feeling of the importance of reading. Perhaps, too, they were less interested than girls in the school routines and the materials of instruction used for teaching reading.

In this same vein, Powell (1967) reported that boys in our society are taught to view feminine pursuits with disdain and many boys perceive reading as a feminine activity. Then reading becomes inappropriate for them. Powell observed that our cultural heritage encourages boys to seek out roles which exemplify the "All-American Boy"—roles that emphasize the athlete rather than the reader in the idealized mode.

In considering factors that affect success in reading, Robinson (1955) stated that there is strong evidence, supported by research, of sex differences in reading achievement in the elementary school. She, like others, questioned the causes of this disparity in reading ability and considered the possibility that elements inherent in the school situation or the social setting adversely affected boys' early reading progress.

CURRENT PROGRAMS ACCOMMODATING TO SEX DIFFERENCES

Male Participation in Instruction

Efforts to find the key to boys' success in learning has spurred new experiments in tailoring instruction to their individuality. In 1969, McFarland conducted an investigation at two Kansas colleges to study the influence of male participation in first-grade instruction. Factors studied were academic achievement, personality, and sex-role identification.

Both experimental and control classes were supervised by women. In the experimental group, male education majors participated in the instructional program for two-hour overlapping periods that provided a constant male influence throughout the school day. In the control group, female education majors took part in a similar schedule. At the end of the first-grade year, statistical analysis of reading test scores showed no significant differences between the gains of the experimental and control groups. In further analysis, a comparison was made between boys and girls to determine which group had benefitted most from male participation in their instruction. Although differences were not considered statistically significant, the boys achieved higher scores. McFarland felt that the pattern of greater gains demonstrated by the boys who worked with male instructional aides suggested the desirability of a sexual balance rather than a preponderance of men or women in primary teaching staffs.

Sex-Segregated Instruction

Another approach to individualizing instruction according to sex differences is that of sex-segregated classes. Two recent programs

have experimented with homogeneous groupings at kindergarten and first-grade levels.

In 1970, Strickler and Phillips reported a "Kindergarten Success Story" in the initial stage of an investigation with children in Brookhaven, Pennsylvania. Pupils were grouped in two all-boy classes, two all-girl classes, and two mixed boy-girl classes, one with male-oriented activities. Teachers, counselors, and administrators developed new activities and modified those in use to help boys improve their attitudes and self-concepts.

Activities of the all-boy program included large-muscle physical exercises, such as wrestling; traditional male tasks, such as building and repairing; boy-like crafts, including puppet making, map making, animal modeling, and wood, rock, or clay work. In the classrooms, wrestling mats, workbenches, and tools replaced playhouses, kitchen equipment, and dolls; books featured masculine stories and story characters. Male figures were also introduced into the environment through the involvement of male teachers, administrators, and community resource persons.

Observed results revealed a more positive and enthusiastic attitude toward school on the part of boys in the all-boy classes. Their attendance improved, their participation in class increased, and they developed a sense of team spirit—a "Let's all pitch in" approach to the classroom situation. In both all-boy and all-girl classes, fewer emotional problems were observed as a result of the stronger emphasis placed on the particular needs of each sex. In the boy-oriented mixed group, girls seemed to enjoy the program as much as boys. A more relaxed atmosphere was observed, attributed to a stronger feeling of belonging on the part of the boys.

As the experimental program continued, Strickler and Phillips reported that both boys and girls seemed to benefit from their separation and from instruction individualized according to their particular needs and interests. It was also noted that there had been a perceptible change in teachers' attitudes toward individual differences among boys and girls.

A similar program was carried out with first-grade pupils in the Campbell (California) Union School District. An all-boy first-grade class was organized with an environment and curriculum planned especially to meet the needs of boys. Pupils were de-

lighted and challenged with a physical education program that included experiences in handling ropes, balls, and hoops in problem-solving activities. Inside the classroom they worked with a variety of motors, clocks, electronic devices, and tools. The instructional program placed great emphasis on freedom in the learning process—but "freedom with accountability."

Both teachers and parents observed that the program developed enthusiastic attitudes toward school and learning. As in the Pennsylvania kindergarten experiment, teachers' attitudes were noticeably changed. Teachers learned to accept boys as being naturally more active and less neat than girls. The reaction of the pupils themselves was summarized by Ring (1970) who reported that the most gratifying feedback received in the project was the boys' reply to an open-ended question, "How would you feel if school were held all year?" Many indicated that they wouldn't mind at all.

No statistical analysis has been reported as yet for either the Pennsylvania or the California study and therefore there is no statistical evaluation of data which indicates that the sex-segregated instruction increased the academic achievement of boys.

Male Tutorial Instruction

In 1970, a three-year ESEA Title III project was funded in the Fullerton (California) School District to improve boys' reading achievement through tutorial instruction by male aides. Major objectives of the SIRS (Success in Reading Skills) Project were to diagnose and prescribe successful reading/learning techniques for boys in the elementary grades who demonstrated reading disabilities. All students were exposed to a program stressing attitude improvement and individual responsibility for learning, with motivation and self-worth as critical factors.

Each aide, called "SIR," worked with small groups of three or four boys, using many motivational techniques to "turn boys on to reading." Lessons were planned based on each boy's progress and standing. To accomplish their goals, the aides utilized their own creative skills and the creative talents of each boy. Trained in reading and reading problems in district-sponsored workshops and in-service meetings, the aides were also rein-

forced by suggestions of an Advisory Committee and the Fathers' Club.

At the end of the first year, a study was conducted to determine the effectiveness of the project. Boys in the experimental group had been exposed to the SIRS program, while those in the control group, matched by age, grade, and achievement scores, had received instruction in the regular school reading program. Statistical analysis of the data of the study showed that the experimental group made significantly higher reading achievement scores in all grades, one through six. In reporting their findings in 1972, Crawford, Elliott, and Johanson concluded that the success of the SIRS Project was demonstrated by the consistently superior achievement of the experimental group. They also credited the program with development of positive attitudes on the part of both students and parents.

THE WRITER'S RESEARCH IN READING INSTRUCTION

Sex-Segregated Instruction

Between 1962 and 1972 the writer has conducted research in the Los Angeles city schools to study reading instruction of elementary school children with emphasis on the learning problems of boys. In the first year of the research, the effect of sex-segregated instruction on boys' achievement in beginning reading was investigated. Approximately 550 first graders, in classes selected to provide a racial and socioeconomic cross section, were taught beginning reading with a grouping procedure consisting of all boys, all girls, and mixed boy-girl groups. Statistical analysis of reading achievement and reading growth for the first year showed that the boys taught alone did not gain significantly more than did the boys taught in heterogeneous sex groupings. However, the girls in sex-segregated groups gained significantly more than the boys in reading achievement and in reading growth. It appeared that during this first year of learning to read, the gap between the boys and the girls had widened considerably. The data analysis demonstrated conclusively that girls not only achieve more by the end of the first year, but that girls actually have a greater growth in reading during this highly important first grade. A possible reason for this disparity in reading achievement in the sex-segregated classes was thought to be the attitude of the teachers in the study. Approximately 70% of the teachers readily admitted that they preferred teaching girls to teaching boys. This bias might have been reflected in the research results.

While the research showed that boys did not learn to read better in sex-segregated groups, the study did result in important findings in the area of boys' language development patterns.

These findings evolved through a series of individual interviews with the research teachers and revealed basic differences in the learning patterns of boys and girls. Supported by six years of subsequent research, these differences were summarized in eight areas: (1) personality style, (2) activity levels, (3) subject-matter interests, (4) listening skills, (5) verbal facility, (6) auditory discrimination, (7) attention span, and (8) goals and motivation. These categories of learning development will be discussed later in terms of adapting instructional methods to boys' developmental needs and capacities.

Instructional Materials

After analyzing research results, the writer concluded that boys should be taught language skills in varied and exciting ways, with materials designed according to individual learning patterns. Thus the second year of research was concerned with materials of instruction. Many reading texts with high-interest stories for boys were examined. The books selected consisted of stories about an atomic submarine and the exciting adventures of a sailor named Jack, his pet parrot, Bluebell, and his friend, Eddy, a six-year-old boy. These readers were tested to note their effect on boys' reading achievement. The teachers in the experimental groups used this series of boy-oriented texts, while the control groups used the state-adopted basal texts. Results of the study showed that the boys in the experimental groups achieved more in reading than boys in the control groups, but not significantly so. Since the teachers had found that the experimental readers were highly popular with the boys, they attributed the lack of significant difference to the fact that the readers were too difficult for beginning reading because of the rapid introduction of new words and the lack of sufficient repetition of the words. (The books had been specifically written for remedial instruction in the middle grades.) The teachers also reported that a variety of instructional materials was needed for reinforcement.

The third year of research continued to analyze factors which affect boys' achievement in beginning reading by focusing on supplementary instructional materials. In a summer workshop preceding the school year, special ancillary materials were devel-

oped to help boys overcome the observed difficulties in language development. These included:

a. *Pre-reading instructional aids*, such as flannel-board stories and puppets, to develop speaking and listening skills
b. *Individual "mini" chalkboards and flannel boards* with appropriate follow-up material, to involve children in active participation in speech and listening situations and to develop alphabetic sound-symbol correspondence
c. *Daily follow-up practice material*, for independent use, to emphasize and give practice and reinforcement in the reading skills taught in a directed reading lesson with the readers
d. *Listening tapes* for each story in the reading books, with appropriate follow-up practice material, to give opportunity for rereading the stories in the reader as an independent activity and to develop skill in listening and following directions
e. *Colored slides* with picture and context, used by the teacher in a directed reading lesson or used independently by the children, to give practice in the basic words of different stories and to vary the stimulus of the printed word
f. *Study prints*, paralleling activities in the readers, to enable the teacher to develop the vocabulary of the readers in an auditory situation and to provide incentives for children to dictate their own stories in a reading-through-writing approach
g. *Short stories and "rewrites,"* using the basic vocabulary of the readers in new situations to allow the child to read and illustrate.

These materials increased the reading achievement of boys, but the readers still proved to be too difficult for primary children. Hence, the writer realized that high-interest books with an easy gradient of vocabulary and a sequence of skills development was needed for the primary grades. Under a Rosenberg Foundation grant, educators involved in the previous research wrote a high-interest basal reading series for grades one through three, with teachers' manuals and practice reinforcement materials. These books were written especially to capture boys' imaginations and appeal to their interests. The readers were tested

in the Los Angeles city schools with significant results. Highly important conclusions for educators were the following: In every case—whether compared by ethnic grouping or by sex—the experimental group using the new, high-interest readers achieved more than the control group using the state texts; and the boys in the experimental group (as well as the girls) scored higher than either boys or girls of the control group.

Development of Pre-reading Skills

The next two years were concerned with research in the kindergarten. An increasing body of research evidence indicates that differences exist at the pre-primary level, with girls scoring higher than boys in most areas of reading readiness and language development. However, experimental findings also indicate that those differences can be modified by structured development of pre-reading skills. In 1966, Spache found, in a Florida experimental program with sixty-four first-grade classes, that sex differences appeared to have been overcome or counterbalanced by factors in an intensified and extended reading readiness program.

The writer's research program was designed to teach the following skills: (1) motor-perceptual development, (2) listening for comprehension of content, (3) oral language skills, (4) visual discrimination, (5) auditory discrimination, and (6) sound-symbol correspondence.

Comprehensive reading readiness manuals were written for teaching these skills in a sequential, developmental order. Each teacher used the manual, which contained specific, concrete suggestions in lesson-plan form, to develop the skills in the six areas mentioned above. Materials of instruction included picture cards, large and small flannel boards and cutouts, individual chalkboards and pocket charts, hand puppets, phoneme boxes with small objects representing initial consonant sounds, and books chosen for their universal appeal to four-, five-, and six-year-olds. All of the materials and teaching methods used in the program were planned to include elements that "turn boys on" in a learning situation: sequence and purpose, activity and involvement, interest and excitement.

For the experimental program, seventeen schools were selected to provide a cross section of socioeconomic levels representing ethnic categories of black, Mexican-American, and other white children. Each experimental school was matched with a control school of similar ethnic origins, academic achievement, and socioeconomic backgrounds. The teachers in both the experimental and control schools were randomly selected.

At the end of the kindergarten year, results of the study indicated that the experimental group achieved significantly higher scores than the control group, which had followed the standard kindergarten curriculum. The final scores of the experimental group showed *no* significant difference in the reading ability of boys and girls. Two years after the project was initiated, schools using the program continued to report improvement in beginning reading. One inner-city Los Angeles school, with a preponderant enrollment of ethnic minorities, reported first-grade reading achievement scores in the 82nd percentile for the first year and in the 83rd percentile for the second year. There were no significant differences between the achievement of boys and girls.

SEX DIFFERENCES IN LEARNING AND TEACHING METHODS

The writer's ten years of research in children's reading achievement demonstrated that boys will learn to read if their learning problems are understood and if instruction is adapted to meet their needs and abilities. The eight basic areas of difference in the learning patterns of boys and girls are discussed in the following pages, with suggestions for practical application of this knowledge in teaching boys to read. The examples of teaching materials shown can be adapted to any instructional system.

Personality Style

In observing boys in the sex-segregated research classes, teachers identified four areas of difference in the personalities of boys and girls which have implications for the teaching-learning process.

Boys were found to be more aggressive and less conforming in the school situation. This comparison of aggressive behavior of the boys versus the conforming, "nice" behavioral responses of girls was underscored by Kohlberg (1966) who suggested, in an analysis of children's sex-role concepts and attitudes, that "niceness" is a very important value to school-age girls, connoting nonaggression, interpersonal conformity, restraint, and nurturance or helpfulness. Because aggression has been considered a major component of "badness" by many teachers, it was not surprising that Sears and Feldman, reporting on teacher interactions, concluded that boys received significantly more disapproval or blame than girls. Further, teachers criticizing boys

were more likely to use a harsh or angry tone, while criticisms of girls were generally conveyed in a normal tone.

Boys appeared to have a lower frustration level for boredom than girls and were less able to attend and tolerate the monotony of regular classroom routines. When the boys were bored, they became discipline problems. In groups of all boys, teachers reported that they had to "keep on their toes" to make the lessons varied and exciting in order to capture and hold the imagination of the boys.

In the terminology of Riesman (1950), teachers stated that boys tended to be more "inner-directed" than "other-directed." Boys were more concerned with learning to read to find out something they wanted to know or to do something which interested them. Girls, on the other hand, were desirous of learning to read to please the teacher, their parents, other relatives, or friends.

Another area of observed personality difference was the ability to adapt easily and quickly to new situations. Teachers referred to this behavior as part of an "adaptive syndrome." They discovered that boys demonstrated more difficulty than girls in coping with changes in the learning process and adapting to new stimuli. Girls adjusted with greater ease, speed, and flexibility to a great variety of new situations. Teachers hypothesized that because of this difference, boys might prefer stories in a series with the security that comes from characters that are known and enjoyed.

Suggestions for teaching boys. Insight into boys' personality differences can help the teacher to adjust to their individuality. Boys need a vigorous, direct approach with much warmth and praise. To avoid boredom, their interest and imagination must be stimulated with exciting, unusual ideas and activities. Boys' "inner direction" calls for reading materials that satisfy their curiosity and have purpose and meaning for them.

It is impossible to overestimate the effect of a teacher's attitude and personality on male pupils. Boys respond to a positive, enthusiastic teacher who presents well-organized, challenging activities in the curriculum. They enjoy a teacher who enlivens the classroom with laughter and smiles. During one of the research years, the writer interviewed over 100 first-grade boys in

an effort to find out what qualities in the teacher's personality boys react to most positively. Of the twenty most common responses, seventeen included the word "smile." These were some of their remarks in answer to the question, "How do you know your teacher likes you and likes to teach you?": "She calls me by my name and smiles at me"; "She looks me right in the eye and smiles at me"; "She helps me with my work and smiles at me"; "She puts her arm around my shoulder and smiles at me." One obstreperous little boy bolted into the classroom and, in answer to the question, shouted, "She laughs and smiles when I come into the room in the morning!" The comments of these first-grade boys recall this quotation from Emerson: "What flowers are to all of nature, smiles are to human beings. They are brief, to be sure, but scattered along the pathway of life, the good they do is inconceivable."

Activity Levels

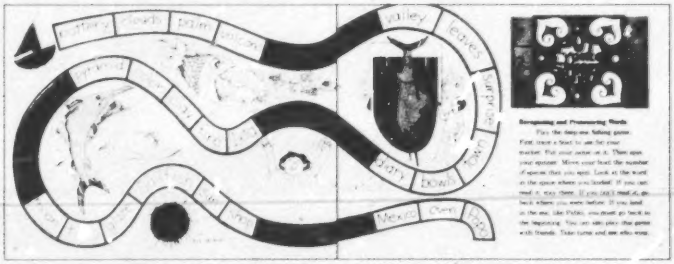
The teachers, when describing their experiences with groups of all boys, made such statements as these: "Boys are so overwhelmingly active, so frighteningly energetic, so tremendously vigorous, so utterly strenuous, so terribly physical"; "It's so hard for a six-year-old boy to keep himself occupied with reading a book"; "Boys tend to wiggle, twist, push, turn, shove, and in general bother each other instead of reading"; "Boys are more 'twitchy' than girls"; "Girls are so quiet and controlled—they can sit quietly and read a book"; "Girls are easier to teach—so ladylike and easy to handle." The differences in the activity levels and behavior patterns of six-year-old boys and girls were very evident to the teachers in the study.

Suggestions for teaching boys. Boys need much behavioral involvement in learning and many physical responses in an active learning environment. Specific physical responses can be encouraged with the use of individual chalkboards, magic (acetate) slates, pocket charts, and flannel boards. Colored chalk and colored marking pens are also effective motivating devices for physical involvement in a lesson.

Boys respond enthusiastically to game activities that channel their energy and disguise the routine of learning. A wide variety

of commercial aids is available for teaching word analysis skills; some instructional systems include these as part of the total reading program. Simpler versions of these game activities can be prepared by the teacher or teacher's aides and adapted to teach many different skills. Examples of games that provide active physical involvement are traveling games, spinning devices, build-up-tear-down charts, and card-matching games.

The traveling game with a spinner, reproduced below, was inspired by an exciting episode in a reader. It can be easily adapted to teach other vocabulary skills. (All illustrations are from *Highway Holidays*, courtesy of Bowmar Publishing Company.)



Subject-Matter Interests

The teachers of all-boy reading groups contended that they found it difficult to interest boys in subject matter that did not have the appeal of the unusual and the dynamic. The teacher's ingenuity was constantly being challenged to satisfy the boys' demand for action and excitement. Teachers of the all-girl groups reported the ease with which they could hold the interest of girls in a variety of subjects. This view has been supported by the interest studies of Lazar, Terman and Lima, Rankin, Thorndike, Norvell, and Stanchfield. These studies have shown that boys have special interests and do not like the so-called "girlish" books, but that the girls not only like their own special books but also all of the so-called "boyish" books.

Suggestions for teaching boys. The writer found, in research on boys' reading preferences, that among the kinds of stories

most liked by boys are those featuring exploration and expeditions, outdoor life, sports and games, science fiction, sea adventure, and fantasy. Least liked categories include stories about music and art and family and home life, as well as plays and poetry. Most favored literary characteristics are unusual experiences; excitement; suspense; liveliness and action; surprise or unexpectedness; fantastic, fanciful, or weird elements; and humor. Teachers should watch for these characteristics when they appear in the content of readers and use them to stimulate and maintain boys' interest in the daily reading lesson. For example, an everyday incident such as shopping at a fruit-and-vegetable stand holds little interest for young male readers. Suddenly, the story comes alive for boys when a small, green frog is mistaken for an avocado as it sits on a pile of the leathery, green fruit. Surprise gives way to humor as the frog creates havoc in a crowded outdoor market, hopping from the head of one startled shopper to another. An alert teacher can use episodes of this kind to engage boys in a lively, open-ended discussion: "What do you think people in the market did when the frog hopped on their heads?" "If you had been there, how would you have tried to catch the frog?"

Teachers can supplement boys' daily "reading diet" with high-interest library books chosen from their most preferred categories. Titles of books are almost as important as the content. A provocative title is a "come-on" to encourage children to pick up the book and look inside. Given a choice between "A Trip in the Car" or "Driving Through the Clouds," boys as well as girls will be attracted by the more intriguing title. Whenever possible, book displays should feature a selection of titles that capture boys' imagination and interest. Examples of unusual, intriguing, or "catchy" titles from award-winning children's books are *The Smuggler's Sloop, The Secret Hiding Place, Drop Dead, and Finders-Keepers.*

Supplementary reading material need not be confined to trade books or children's magazines. Comic books may be the only reading material that interests some boys; and when selected for quality of style and concepts, they are valuable reading aids. Other boys may be motivated to read only when they want to learn how to do something that interests them. "How-To-Do-It"

articles, game directions, instruction manuals—even cookbooks such as *The Pooh Cookbook*—will stimulate boys to read and to master unfamiliar and difficult vocabulary.

Listening Skills

The teachers declared that boys appeared not to listen as intently and carefully as girls. This might be related to the greater difficulty the boys evidenced in hearing all the sounds and in making fine auditory discriminations. All of the teachers stated that the boys listened more effectively when they were keenly interested. They also tended to listen more intently when the teacher utilized more than one of the five senses.

That listening patterns continue to reflect sex differences as children mature is suggested by Winter (1966), reporting on a Texas study on listening with boys and girls in the upper elementary grades. Analysis of test results in listening comprehension revealed that the mean for the girls was slightly higher than that for the boys.

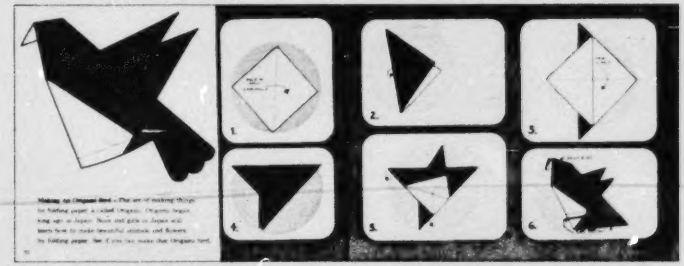
Suggestions for teaching boys. The teacher needs to be aware of factors that contribute to "listenability," especially when teaching boys. These include (1) a relaxed atmosphere with a minimum of distractions; (2) preparation for listening in terms of motivation and readiness—purpose for listening; (3) a pleasant voice, flowing rhythmically and not too rapidly; (4) pronunciation and patterns of speech that are easily understood by the listener, with unfamiliar words woven into context that gives clues to their meaning; (5) high-interest material, not too closely packed with concepts; and (6) opportunity for reaction—doing something with or about the information acquired through listening.

Instructional aids can be used to develop boys' "listenability." Boys respond enthusiastically to such aids as recordings of the sounds of airplanes, trucks, trains, or mechanical equipment. Exciting stories may be taped on cassettes and played by the children for an independent listening activity. These may include a type of comprehension follow-up for the student to do and check as he listens to the tape. Individual flannel boards, pocket charts, chalkboards, and magic slates are highly successful in pro-

moting listening skills in situations in which children follow steps in a teacher-directed activity.

Directional games such as "Simon Says" and "Do As I Do" are excellent for increasing alert awareness and an attitude of trying to listen. Craft activities are also valuable devices to teach listening skills, for they provide situations that require listening for directions.

This illustration of *origami*, Japanese paper sculpture, is an example of a craft activity in which children need to listen carefully as the teacher explains pictured directions.



Verbal Facility

In contrast to girls, who demonstrated verbal fluency, the boys in sex-segregated reading groups were found to be less adequate in expressing themselves. They had greater difficulty in articulation, enunciation, and pronunciation. Their sentences were usually incomplete and fragmentary. Teachers discovered that the homogeneous grouping revealed the differences with great clarity, since in mixed boy-girl groups the active participation of girls created an erroneous impression that the boys were equally involved. In actuality, the boys participated less in class and did so primarily when motivated by interest in a particular subject. It was evident that sex differences in oral language skill were due in part to cultural factors which created different social climates for boys and girls. Activities and interests typical of girls stimulated the development of verbal expression to a greater degree than did the more physical activities and interests typical of boys.

Suggestions for teaching boys. A variety of materials and techniques can be used to help boys overcome difficulties in oral language skills. Among the most effective are those which provide the behavioral involvement that boys need. Puppetry is an excellent technique for encouraging children to verbalize. Simple puppets—paper bag, stocking, or stick types—help to free children from tension and inhibitions through identification with a story character. The group experience of making puppets in class also helps to encourage spontaneous oral expression among children who are shy and inadequate in communicating with others.

Dramatization is another experience that promotes growth in oral expression. It can be used effectively in many ways, from the simple acting out of story parts to the dramatization of an entire story or play. Play-acting helps children to speak with expression that helps to convey ideas; to practice correct sentence structure; and to improve pronunciation, diction, and voice quality. With the teacher's help, boys and girls can make up their own plays, an experience which gives practice in expressing thoughts and ideas. Verbalization is also stimulated by related activities such as the construction of simple scenery, costumes, and props. These experiences provide an excellent opportunity for boys to practice putting ideas into words in a relaxed and unself-conscious situation.

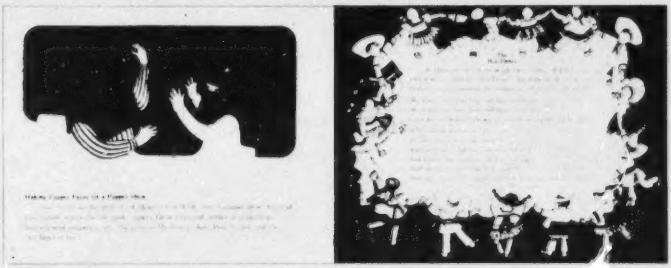
Flannel-board stories can be used with great success to involve children in pleasurable speech activity. Boys, in particular, respond to the security and reinforcement of retelling favorite stories with "flannel talk." Becoming physically involved in manipulating attractive cutouts of the characters, they lose themselves in the story. As in dramatization, repetition of familiar lines of dialogue or narration promotes their ability to speak in complete and well-structured sentences, encourages verbal fluency, and helps to develop clear and expressive voice quality.

Another effective device is the use of a picture file and study prints which present high-interest situations that stimulate children to think and discuss, and to provide an incentive for story telling. When pictures are also related to the content of the readers, they create interest in the stories and develop an oral vocabulary in preparation for reading. Pictures and study prints can be

used to encourage children to talk and answer questions in terms of comprehension skills, such as inference, cause-and-effect relationships, comparison, prediction, sequence, and main ideas.

When properly motivated and directed, choric speaking of favorite poems and songs can develop expression and good speech habits in a natural and enjoyable experience.

The examples below illustrate dramatization through puppets and a lively song that develop oral language skill and enrich the reading program.



Auditory Discrimination

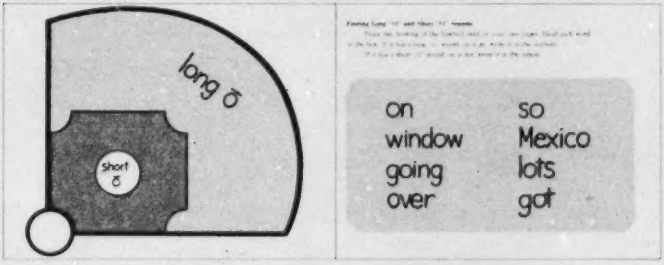
Boys' lack of verbal facility and their inadequate listening skills can be considered contributory factors in another area of difference in language patterns. It was observed that boys had much greater difficulty than girls in making auditory discriminations and in hearing common phonetic elements. In general, boys required one-third to one-half more time than girls to learn and recognize the same sounds. These observations are supported by Wyatt's study (1966) of the reading achievement of first-grade boys and girls. Analysis of readiness test results disclosed that girls scored significantly higher than boys in auditory discrimination.

Suggestions for teaching boys. As in other fundamental areas of learning, in auditory discrimination boys need the involvement of a behavioral response to reinforce the auditory skill taught. Vocabulary drill should include a physical response as well as auditory and visual discrimination. Varied writing materials such

as individual magic slates, chalkboards, and pocket charts are effective when children follow a vocabulary exercise led by the teacher. Simple physical movement, such as raising fingers or word cards to indicate auditory recognition of specific phonetic elements are also successful reinforcement techniques for boys.

Game activities are invaluable in providing the physical involvement so essential in the difficult area of hearing sound patterns in the language. Interesting, attractive word games may be played in teams or groups with spinners, game boards, and/or word cards. Activities such as ball games, hopscotch, relay races, circle games, or musical chairs may be adapted, with the addition of word cards, to teach vocabulary skills. Children also enjoy cheer-leading sessions, with each child holding up word cards as cheer leaders with pompoms name words and call for responses. Other types of games may not involve as much physical activity but require active involvement in auditory discrimination. For example, variations of "Bingo," "Tic-Tac-Toe," and "Password," or games played on a chart.

The following example of a "baseball" game can be used to teach a variety of phonetic analysis skills.



Attention Span

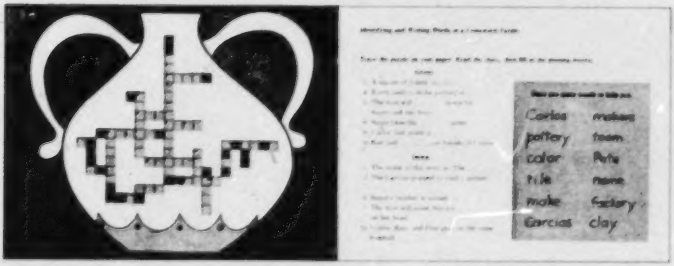
The attention span of boys, in general, was found by the teachers to be shorter than that of girls. The majority of the teacher-observers noted that the attention span of the boys varied between twelve and fifteen minutes, while the girls could attend for twenty to twenty-five minutes. However, several teachers qualified

this observation with the statement that "It depends on the activity. Boys can pay attention for a long time if they're doing something active and dynamic, either mental or physical." It is therefore not surprising that boys' attention lags in classrooms which traditionally are feministically oriented or when reading materials fail to arouse their interest or their curiosity.

Suggestions for teaching boys. Boys' fascination with the unusual, the exciting, and the dynamic is the key to attracting and holding their attention. A knowledge of boys' interests and subject-matter preference is essential in providing varied and exciting learning experiences. Adventure, exploration, outdoor life, and sports should always be a prominent part of their classroom environment. Boys need the stimulation of attention-getting bulletin boards, featuring pictures of sports, recreation, inventions, mechanical equipment, and exploration on the earth and in outer space.

Readers and library books that include these elements will help to lengthen boys' attention span. Expository articles will also command their attention when relevant to special interests. Boys will attend consistently when reading such topics as "Magic Tricks You Can Perform," or "Ten Ways to Earn Money After School," while, conversely, many classics of children's literature—poetry and fairy tales, for example—will not engage their attention and maintain their interest.

Group or pupil-team activities, particularly when related to high-interest subjects such as sports, exploring, outer space, or science fiction, are excellent attention-holding devices. Other activities that increase the attention span of boys are treasure hunts,



secret codes, mazes, riddles, and puzzles, such as the crossword puzzle illustrated at bottom of page 29.

Goals and Motivations

The teachers involved in the research stated that the girls were easier to teach than the boys because the girls were eager to please the teacher, their parents, or another adult figure. They were more quickly motivated by praise to work hard and to do their best at a given task. Some of the teachers said that the boys could be more enthusiastic, more curious, and more tenacious than the girls in trying to solve a problem or learn something in which they were interested. Generally, the boys in the study were less anxious to please the teacher, less motivated to develop good work habits, less desirous of assuming responsibility, and less self-motivated in learning to read. Perhaps, as suggested by Gates in the study mentioned previously, the role concept of the boy in the culture has had less goal-direction for the reading act than for the girl, and more motivation for physical involvement and activity.

In the area of attitudes and goals of boys, Minuchin (1966)—after working in a project at the Bank Street College of Education—observed that boys were more resistant and negative about school and education than girls, and less concerned about achievement and recognition. She noted that girls were more positively identified with school and were more apt to find the entire experience of school life comfortable, pleasant, and meaningful.

Suggestions for teaching boys. Boys' negative or indifferent attitudes can be overcome to a marked extent by a positive, concerned attitude on the part of their teacher. A feeling of approval and success is essential in developing a positive self-concept. Teachers must try to avoid harshness in exercising discipline and control. Warmth, praise, and humor are far more successful in motivating boys to learn and achieve.

When boys are unmotivated, the teacher may need to use behavior modification techniques. These techniques include material rewards earned through a point system, such as raisins, gum, or small candies. As a boy's attitude toward school and toward

himself improves, behavior modification may be changed to social rewards, such as praise, encouragement, and the appointment to leadership duties in the classroom. As the boy's self-concept becomes further improved through success in school and the encouragement of a vigorous, warm teacher, the behavior modification becomes inherent in successful accomplishment of the task. In other words, the reward becomes intrinsic rather than extrinsic.

Boys need constant direction and task orientation in a learning situation. In a directed reading lesson they must understand what they are reading for and why it is important. The following examples show how boys can be motivated to read in terms of a specific comprehension skill as well as for enjoyment.

Comprehension skill: to identify cause-and-effect relationships
Directive: "The story we're going to read today is about the mysterious disappearance of an elephant from the zoo. Let's read to find out what caused this huge animal to disappear without a single trace."

Comprehension skill: to tell the sequence of events
Directive: "Today's chapter gives the directions for doing the magic trick that Kenny performed in yesterday's story. Read the directions carefully and try to remember each step in the right order or sequence. Later we'll see if you remember them well enough to perform the trick yourself."

Comprehension skill: to predict the outcome of events
Directive: "In the first part of this story, we learned that the Cub Scouts had become lost while hiking back to their camp. As you read the next part, watch for clues that help you to predict, or figure out, how they will find the trail again."

A "RIGHT-TO-READ" PROGRAM FOR BOYS

Nationwide concern for the improvement of reading has increased the awareness of a need for overcoming the disparity between the reading achievement of boys and girls. The writer's research and the studies of other investigators in language development have indicated significant sex differences in learning patterns as well as achievement. It is apparent that boys need more motivation, specialized attention, practice, and reinforcement in almost every area of the learning process. Specific knowledge of the differences in learning patterns of boys versus girls can provide educators with insight into boys' achievement problems and can suggest the necessary attitudes and instructional approaches that will enable male learners to master language skills with enjoyment, satisfaction, and, above all, success. Psychologists are aware that all learners need a "daily dosage" of success, and educators who have studied individual differences in learning know that boys need a double dosage.

The skill, the effort, and the concern required to insure success for boys present a constant challenge, but the teacher's reward is the gift of literacy—the "bequest of wings"—which he is privileged to bestow upon his pupils.

As expressed by Emily Dickinson . . .

He ate and drank the precious words,
His spirit grew robust;
He knew no more that he was poor,
Nor that his frame was dust.

He danced along the dingy ways,
And this bequest of wings
Was but a book. What liberty
A loosened spirit brings.

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